

REMARKS

Claims 15-38 were previously pending in the application. Claims 15-38 remain unchanged. Claims 15, 29, and 35 are independent.

Allowed Subject Matter:

Applicants gratefully acknowledge the Office Action's indication that claims 24-28, 32, and 33 would be allowable if rewritten to overcome the rejection under 35 U.S.C. § 112, second paragraph. Since the rejections under 35 U.S.C. § 112, second paragraph, have been withdrawn by the present Office Action, claims 24-28, 32, and 33 should be allowable if rewritten in independent form.

The Claimed Invention

An exemplary embodiment of the claimed invention, as recited for example by independent claim 15, is directed to a housing for a household appliance, comprising a body and at least one door, which is connected to the body in a manner that enables it to swivel due to the provision of at least one first and one second multiple-articulation hinge, wherein the door is supported on an upper supporting surface of the first multiple-articulation hinge and a lower supporting surface of the second multiple-articulation hinge by means of at least one shim inserted between the door and at least one of the supporting surfaces.

Another exemplary embodiment of the claimed invention, as recited for example by independent claim 29, is directed to a refrigerator comprising a housing including a body and a door, first and second multiple-articulation hinges coupling the door to the body in a manner that enables the door to swivel, wherein the door is supported with an upper supporting surface of the first multiple-articulation hinge and a lower supporting surface of the second multiple-articulation hinge, and at least one shim removably inserted between the door and one of the supporting surfaces permitting the door to be adjusted in a vertical direction with respect to the body.

Another exemplary embodiment of the claimed invention, as recited for example by independent claim 35, is directed to a housing for a household appliance, comprising a body; at least one door coupled to the body in a manner that enables the at least one door to swivel with respect to the body, the at least one door being vertically adjustable with respect to the body; at least one first multiple-articulation hinge, wherein a lower end of the door is supported on an upper supporting surface of the first multiple-articulation hinge; at least one second multiple-articulation hinge, wherein an upper end of the door is supported by a lower supporting surface of the second multiple-articulation hinge; and at least one shim between the lower end of the door and the upper supporting surface of the first multiple-articulation hinge, and the upper end of the door and the lower supporting surface of the second multiple-articulation hinge, the at least one shim vertically adjusting a position of the door with respect to the body.

In conventional built-in refrigeration devices, the door that is fitted to the appliance at the manufacturer can be concealed in the built-in appliance behind a furniture panel which swivels when opening and closing the door. In order to deliver an aesthetically satisfactory appearance, the edges of this furniture panel must be aligned exactly to those of adjacent cabinet doors. For this purpose, the furniture panel and the door of the refrigeration device are displaceably coupled to one another so that the furniture panel can be aligned to neighboring cabinet doors. In this case, precise adjustability of the refrigeration device door is not necessary, since the furniture panel can be adjusted with respect to the door. This is similar to the device of the Lanzani reference, which is applied by the Office Action in the rejections below.

In contrast, other conventional built-in household appliances include a body and a door, in which the door that is supplied by the appliance manufacturer is provided to remain visible and uncovered in the built-in position of the refrigeration device. At least one door must be adjustable with respect to the body to align its edges so that they are flush with those of another door. In this case, the door of the appliance needs to be adjustable in relation to the body, which is in stark contrast to the previously described

conventional device and the device disclosed in the applied Lanzani reference in which the furniture panel is adjustable with respect to the door.

In providing adjustability between the door and the body, the door can be attached to the body of the appliance using multiple-articulation hinges to prevent a side of the door close to the hinge from hitting against an adjacent wall of the furniture compartment. However, if the fixing points of these hinges are not exactly matched to one another on the body and on the door of the appliance, the arrangement of body, hinges and door can be exposed to internal stresses causing the axes of the hinges to be deflected from an exactly parallel orientation, thereby causing a processional movement during opening and closing of the door, and ultimately shortening the lifetime of the hinges.

In stark contrast to these conventional devices, the present invention provides multiple-articulation hinges coupling the door to the body in a manner that enables the door to swivel, wherein the door is supported with an upper supporting surface of the first multiple-articulation hinge and a lower supporting surface of the second multiple-articulation hinge, and at least one shim removably inserted between the door and one of the supporting surfaces permitting the door to be adjusted in a vertical direction with respect to the body.

In this manner, the present invention provides a housing for a cabinet-like household appliance having multiple-articulation hinges that allow the user to vertically align the door position with respect to the body simply and without the risk of strain which wears down the multiple-articulation hinges. Other exemplary embodiments also allow the user to align the door position with respect to the body in a horizontal direction as well as in forward and backward directions with respect to the face of the door in a simple manner and without the risk of strain on the multiple-articulation hinges.

The Rejections under 35 U.S.C. § 103

In the Office Action, claims 15-19, 21-23, 29-31, and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Lanzani reference (US 5,471,709) in view

of the Mansfeld reference (GB 708,367). Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over the Lanzani reference and the Mansfeld reference, in view of the Richardson et al. reference (US 5,113,628). Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Lanzani reference and the Mansfeld reference, in view of the Horgan, Jr. reference (US patent 3,555,733).

Applicants respectfully traverse these rejections.

The Rejection under 35 U.S.C. 103(a) over the Lanzani reference in view of the Mansfeld reference

Applicants respectfully submit that none of the applied references discloses or suggests the features of the claimed invention including a housing for a cabinet-like household appliance, comprising a body and at least one door, which is connected to the body in a manner that enables it to swivel due to the provision of at least one first and one second multiple-articulation hinge, wherein the door is supported on an upper supporting surface of the first multiple-articulation hinge and a lower supporting surface of the second multiple-articulation hinge by means of at least one shim inserted between the door and at least one of the supporting surfaces, as recited in claim 15.

Somewhat similarly, none of the applied references discloses or suggests the features of the claimed invention including a refrigerator comprising a housing including a body and a door, first and second multiple-articulation hinges coupling the door to the body in a manner that enables the door to swivel, wherein the door is supported with an upper supporting surface of the first multiple-articulation hinge and a lower supporting surface of the second multiple-articulation hinge, and at least one shim removably inserted between the door and one of the supporting surfaces permitting the door to be adjusted in a vertical direction with respect to the body, as recited in claim 29.

Also, none of the applied references discloses or suggests the features of the claimed invention including a housing for a household appliance, comprising a body; at least one door coupled to the body in a manner that enables the at least one door to swivel with respect to the body, the at least one door being vertically adjustable with respect to

the body; at least one first multiple-articulation hinge, wherein a lower end of the door is supported on an upper supporting surface of the first multiple-articulation hinge; at least one second multiple-articulation hinge, wherein an upper end of the door is supported by a lower supporting surface of the second multiple-articulation hinge; and at least one shim between the lower end of the door and the upper supporting surface of the first multiple-articulation hinge, and the upper end of the door and the lower supporting surface of the second multiple-articulation hinge, the at least one shim vertically adjusting a position of the door with respect to the body, as recited in claim 35.

As explained above, these features are important for providing a housing for a cabinet-like household appliance having multiple-articulation hinges that allow the user to vertically align the door position with respect to the body simply and without the risk of strain which wears down the multiple-articulation hinges. Other exemplary embodiments, as recited in the dependent claims, also allow the user to align the door position with respect to the body in a horizontal direction as well as in forward and backward directions with respect to the face of the door in a simple manner and without the risk of strain on the multiple-articulation hinges.

The Lanzani reference very clearly does not teach or suggest these features. Indeed, the Lanzani reference absolutely nothing to do with adjusting the door with respect to the body of the appliance.

Instead, as clearly shown in Figures 1-3, the Lanzani reference relates to a hinge that adjusts the position of the facing panel (7) with respect to the door 6, not the door (6) with respect to the body (4). The Lanzani reference clearly states that the hinge permits rapid and simple adjustment of the position of the panel with respect to the refrigerator door when the panel is attached to the door. See, e.g., col. 2, lines 21-24.

As clearly shown in Figures 1 and 2, the Lanzani reference does not provide any adjustability between the door (6) or supporting member (2) and the front (3) of the refrigerator body (4). See, e.g., col. 2, lines 55-62.

Thus, the Lanzani reference has absolutely nothing to do with adjusting the door (6) with respect to the body (4) of the refrigerator, as claimed.

In the Response to Arguments, the Office Action takes the position that the front panel (7) is considered to be part of the door (6), and therefore, when an adjustment is made to the position of the front panel (7) or the position of the door (6), the position of the door with respect to the body (4) is changing.

Applicants respectfully submit that this simply is not the case. An adjustment made to the position of the front panel (7) (which the Office Action considers to be part of the door 6) has no affect on the position of the overall door (6) with respect to the body (4). Thus, irrespective of whether the front panel (7) is considered to be part of the door (6), the adjustment of the front panel (7) with respect to the door (6) has absolutely nothing to do with adjusting the part of the door (6) with respect to the body (4) of the refrigerator, and hence, absolutely nothing to do with the problems being addressed by the claimed invention.

Indeed, as explained above, in conventional built-in refrigeration devices such as the device of the Lanzani reference, the door that is fitted to the appliance at the manufacturer is concealed in the built-in appliance behind a furniture panel (7) which swivels when opening and closing the door (6). In order to deliver an aesthetically satisfactory appearance, the edges of this furniture panel (7) must be aligned exactly to those of adjacent cabinet doors. For this purpose, the furniture panel (7) and the door (6) of the refrigeration device are displaceably coupled to one another so that the furniture panel (7) can be aligned to neighboring cabinet doors. In this case, precise adjustability of the refrigeration device door (6) is not necessary, since the furniture panel (7) can be adjusted with respect to the door (6).

In stark contrast, the present invention provides a housing in which the door of the appliance is adjustable in relation to the body. Again, this is in stark contrast to the device disclosed in the Lanzani reference in which the furniture panel (7) is adjustable with respect to the door (6), and precise adjustability of the refrigeration device door (6) is NOT necessary, since the furniture panel (7) can be adjusted with respect to the door (6).

Applicants submit that one of ordinary skill in the art clearly would not have been motivated to modify the Lanzani reference in view of the Mansfeld reference, and the Office Action clearly fails to establish a rational underpinning to support the legal conclusion of obviousness.

The Office Action acknowledges that the Lanzani reference does not disclose using a shim to space the door from the hinge. The Office Action asserts that the Mansfeld reference teaches at least one shim inserted (11) between the door and at least one of the supporting surfaces, and therefore, takes the position that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the hinges of Lanzani to include shims as taught by Mansfeld, since it would have allowed for vertical adjustment of the door.

The Response to Arguments asserts that “adding a different means for vertically adjusting the door would have allowed for the door to be installed at approximately the desired height using the shims of Mansfeld and then the door could have been precisely adjusted without having to remove the door from the hinges.” The Office Action takes the position that inserting a plurality of shims between the supporting surfaces of the upper and lower hinges and the door would provide for a change in the vertical position of the door relative to the body. The Office Action asserts that the horizontal adjustment as pointed out by the applicant would be made if the plurality of shims were inserted between the door and the front panel.

In the Amendment filed on October 14, 2009, Applicants noted that the Office Action dated July 20, 2009, failed to explain or establish how a plurality of shims could be inserted between the supporting surfaces of the upper and lower hinges and the door of the Lanzani reference in order to adjust the door in a vertical direction. The Response to Arguments of the present Office Action further explains the alleged location where the shim would be inserted between supporting surfaces of the hinges and the door to provide for vertical adjustability by providing the annotated Figure 3.

Even assuming in arguendo that the Lanzani reference could be modified as alleged, Applicants respectfully submit that one of ordinary skill in the art would have absolutely no reason to make such a modification to the device of the Lanzani reference.

As explained above, in the device disclosed in the Lanzani reference the furniture panel (7) is adjustable with respect to the door (6), and precise adjustability of the refrigeration device door (6) is NOT necessary, since the furniture panel (7) can be adjusted with respect to the door (6).

Moreover, if the Lanzani reference is considered to teach adjusting the panel 7 (which the Office Action considers to be part of the door 6) in order to align the alleged door assembly 6, 7 with the body 4, then one of ordinary skill in the art would have absolutely no reason to modify the device of the Lanzani reference to arrive at the claimed invention because the alleged door assembly 6, 7 would already allow for vertical adjustment of the door 6, 7 with respect to the body 4. Hence, based on the articulated reasoning set forth in the Office Action, the precise adjustability of the refrigeration device door part 6 with respect to the body 4 clearly would NOT be necessary in the Lanzani reference, since the furniture panel 7 of the door assembly 6, 7 can be adjusted to allow for vertical adjustment of the door assembly 6, 7 with respect to the body 4.

Since the alleged door assembly 6, 7 would already allow for vertical adjustment of the door 6, 7 with respect to the body 4, the addition of the shims would result in additional parts, and hence additional cost, simply to provide a duplicate function. One of ordinary skill in the art clearly would not have been motivated to add to the cost and complexity of the assembly without providing any further benefits or solving any other problems from the existing design.

For at least these reasons, Applicants submit that one of ordinary skill in the art clearly would not have been motivated to modify the Lanzani reference in view of the Mansfeld reference.

In stark contrast, the claimed invention provides at least one shim removably inserted between the door and one of the supporting surfaces permitting the door to be

adjusted in a vertical direction with respect to the body, as recited for example in claim 29.

As explained above, these features are important for providing a housing for a cabinet-like household appliance having multiple-articulation hinges that allow the user to vertically align the door position with respect to the body simply and without the risk of strain which wears down the multiple-articulation hinges. Other exemplary embodiments, as recited in the dependent claims, also allow the user to align the door position with respect to the body in a horizontal direction as well as in forward and backward directions with respect to the face of the door in a simple manner and without the risk of strain on the multiple-articulation hinges.

For at least these reasons, none of the applied references discloses or suggests the subject matter defined by independent claims 15, 29, and 35.

Applicants respectfully request withdrawal of these rejections.

The Rejection under 35 U.S.C. 103(a) over the Lanzani reference, the Mansfeld reference, and the Richardson et al. reference

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over the Lanzani reference and the Mansfeld reference, in view of the Richardson et al. reference (US 5,113,628).

Applicants respectfully traverse this rejection.

The Richardson et al. reference does not remedy the deficiencies of the Lanzani reference and the Mansfeld reference. Indeed, the Richardson et al. reference is not relied upon for these features.

Moreover, the Richardson et al. reference has absolutely nothing to do with vertically adjusting the door with respect to the body, as claimed. Instead, the Richardson et al. reference relates to a railless refrigerator door that does not require mechanical fasteners to hold the structure together.

For at least these reasons, none of the applied references discloses or suggests the subject matter defined by independent claim 15, from which claim 20 depends.

Applicants respectfully request withdrawal of these rejections.

The Rejection under 35 U.S.C. 103(a) over the Lanzani reference, the Mansfeld reference, and the Horgan, Jr. reference

Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Lanzani reference and the Mansfeld reference, in view of the Horgan, Jr. reference.

Applicants respectfully traverse this rejection.

The Horgan, Jr. reference does not remedy the deficiencies of the Lanzani reference and the Mansfeld reference. Indeed, the Office Action explicitly acknowledges that the Horgan, Jr. reference discloses only horizontal adjustment using shims. Applicants submit that it would not have been obvious to modify the Lanzani reference and the Mansfeld reference in view of the teachings of horizontal adjustment using shims, as taught by the Horgan, Jr. reference.

For at least these reasons, none of the applied references discloses or suggests the subject matter defined by independent claim 35, from which claims 37 and 38 depend.

Applicants respectfully request withdrawal of this rejection.

CONCLUSION

In view of the above, entry of the present Amendment and allowance of claims 15-38 are respectfully requested. If the Examiner has any questions regarding this amendment, the Examiner is requested to contact the undersigned. If an extension of time for this paper is required, petition for extension is herewith made.

Respectfully submitted,

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